New Hampshire Volunteer Lake Assessment Program

2003 Biennial Report for Webster Lake Franklin

NHDES
Water Division
Watershed Management Bureau
29 Hazen Drive
Concord, NH 03301

New Hampshire Department of Environmental Services

OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **WEBSTER LAKE, FRANKLIN,** the program coordinators have made the following observations and recommendations:

Thank you for your continued hard work sampling the lake this season! Your monitoring group sampled **five** times this season and has consistently sampled throughout the summer for many years! As you know, with multiple sampling events each season, we will be able to more accurately detect changes in water quality. Keep up the good work!

We would like to encourage your monitoring group to participate in the DES Weed Watchers program, a volunteer program dedicated to monitoring the lakes and ponds for the presence of exotic weeds.

This program only involves a small amount of time during the summer months. Volunteers survey their waterbody once a month from June through September. To survey, volunteers slowly boat, or even snorkel, around the perimeter of the waterbody and any islands it may contain. Using the materials provided in the Weed Watchers Kit, volunteers look for any species that are of suspicion. After a trip or two around the waterbody, volunteers will have a good knowledge of its plant community and will immediately notice even the most subtle changes. If a suspicious plant is found, the volunteers will send a specimen to DES for identification. If the plant specimen is an exotic, a biologist will visit the site to determine the extent of the problem and to formulate a plan of action to control the nuisance infestation.

If you would like to help protect your lake or pond from exotic plants, contact Amy Smagula, Exotic Species Program Coordinator, at 271-2248 or visit the Weed Watchers web page at www.des.state.nh.us/wmb/exoticspecies/survey.htm.

FIGURE INTERPRETATION

- **Figure 1 and Table 1:** The graphs in Figure 1 (Appendix A) show the historical and current year chlorophyll-a concentration in the water column. Table 1 (Appendix B) lists the maximum, minimum, and mean concentration for each sampling season that the lake has been monitored through the program.

  Chlorophyll-a, a pigment naturally found in plants, is an indicator of the algal abundance. Because algae are usually microscopic plants that contain chlorophyll-a, and are naturally found in lake ecosystems, the chlorophyll-a concentration measured in the water gives an estimation of the algal concentration or lake productivity. **The mean (average) summer chlorophyll-a concentration for New Hampshire's lakes and ponds is 7.02 mg/m^3.**

  The current year data (the top graph) show that the chlorophyll-a concentration ***increased*** from May to June, ***decreased*** from June through August, and then ***increased*** from August to September. The chlorophyll-a concentration in all months was ***less than*** the state mean.

  The historical data (the bottom graph) show that the 2003 chlorophyll-a mean was ***less than*** the state mean.

  Overall, the statistical analysis of the historical data (the bottom graph) shows that the mean annual chlorophyll-a concentration has ***not significantly changed*** (neither *increased* nor *decreased*) since monitoring began in 1986. Specifically, the chlorophyll-a concentration has remained ***relatively stable*** and has been ***less than*** the state median. (Note: Please refer to Appendix E for the detailed statistical analysis explanation and data print out.)

  While algae are naturally present in all lakes/ponds, an excessive or increasing amount of any type is not welcomed. In freshwater lakes/ponds, phosphorus is the nutrient that algae depend upon for growth. Algal concentrations may increase with an increase in nonpoint sources of phosphorus loading from the watershed, or in-lake sources of phosphorus loading (such as phosphorus releases from the sediments). Therefore, it is extremely important for volunteer monitors to continually educate residents about how activities within the watershed can affect phosphorus loading and lake/pond quality.

- **Figure 2 and Table 3:** The graphs in Figure 2 (Appendix A) show historical and current year data for lake transparency. Table 3 (Appendix B) lists the maximum, minimum and mean transparency data for each sampling season that the lake has been monitored through the program.

  Volunteer monitors use the Secchi-disk, a 20 cm disk with alternating black and white quadrants, to measure water clarity (how far a person can see into the water). Transparency, a measure of water clarity, can be affected by the amount of algae and sediment from erosion, as well as the natural colors of the water. **The mean (average) summer transparency for New Hampshire's lakes and ponds is 3.7 meters.**

  The current year data (the top graph) show that the in-lake transparency ***remained stable*** from May to June, increased from June to August, and then ***decreased*** from August to September. The transparency in May and June was ***less than*** the state mean, in July it was ***approximately equal to*** the state mean, and in August and September the transparency was ***greater than*** the state mean.

  The historical data (the bottom graph) show that the 2003 mean transparency is ***approximately equal to*** the state mean.

  Overall, the statistical analysis of the historical data (the bottom graph) show that the mean annual in-lake transparency has ***not significantly changed*** (neither *increased* nor *decreased*) since monitoring began in 1986. Specifically, the in-lake transparency has remained ***relatively stable*** and has been ***greater than*** the state mean. (Note: Please refer to Appendix E for the statistical analysis explanation and data print out.)

  Typically, high intensity rainfall causes erosion of sediments into lakes/ponds and streams, thus decreasing clarity. Efforts should continually be made to stabilize stream banks, lake shorelines, disturbed soils within the watershed, and especially dirt roads located immediately adjacent to the edge of tributaries and the lake. Guides to Best Management Practices designed to reduce, and possibly even eliminate, nonpoint source pollutants, such as sediment loading, are available from DES upon request.

- **Figure 3 and Table 8:** The graphs in Figure 3 (Appendix A) show the amounts of phosphorus in the epilimnion (the upper layer) and the hypolimnion (the lower layer); the inset graphs show current year data. Table 8 (Appendix B) lists the annual maximum, minimum, and median concentration for each deep spot layer and each tributary since the lake joined the program.
  Phosphorus is the limiting nutrient for plant and algae growth in New Hampshire's freshwater lakes and ponds. Too much phosphorus in a lake/pond can lead to increases in plant and algal growth over time. **The median summer total phosphorus concentration in the epilimnion (upper layer) of New Hampshire's lakes and ponds is 11 ug/L. The median summer phosphorus concentration in the hypolimnion (lower layer) is 14 ug/L.**

  The current year data for the epilimnion (the top inset graph) show that the phosphorus concentration ***decreased*** from May through August, and then ***increased*** in September. The phosphorus concentration in June, July, and August was ***less than*** the state median, while in May and September the concentration was ***greater than*** the state median.

  The historical data show that the 2003 mean epilimnetic phosphorus concentration is ***approximately equal to*** the state median.

  The current year data for the hypolimnion (the bottom inset graph) show that the phosphorus concentration ***increased*** from May through August, and then ***decreased*** in September. The phosphorus concentration in May was ***less than*** the state median, while in June, July, August, and September the concentration was ***greater than*** the state median.

  The historical data show that the 2003 mean hypolimnetic phosphorus concentration is ***greater than*** the state median.

  Overall, the statistical analysis of the historical data show that the phosphorus concentration in the hypolimnion (lower layer) has ***not significantly changed*** (neither *increased* nor *decreased*) since monitoring began in 1986. Specifically, the phosphorus concentration in the hypolimnion has remained ***relatively stable*** and has been ***greater than*** the state median. (Note: Please refer to Appendix E for the statistical analysis explanation and data print out.)

  Overall, the statistical analysis of the historical data show that the phosphorus concentration in the epilimnion (upper layer) has ***significantly decrease*d** since monitoring began. Specifically, the phosphorus concentration in the epilimnion has ***decreased*** (meaning ***improved***) on average by ***approximately ten percent*** per sampling season during the sampling period **1986** to **2003**. (Note: Please refer to Appendix E for the statistical analysis explanation and data print out.) We hope this trend continues!

One of the most important approaches to reducing phosphorus loading to a waterbody is to continually educate watershed residents about its sources and how excessive amounts can adversely impact the ecology and value of lakes and ponds. Phosphorus sources within a lake or pond's watershed typically include septic systems, animal waste, lawn fertilizer, road and construction erosion, and natural wetlands.

TABLE INTERPRETATION

- **Table 2: Phytoplankton**
  Table 2 (Appendix B) lists the current and historic phytoplankton species observed in the lake. The dominant phytoplankton species observed in June were ***Tabellaria*** **(Diatom),** ***Anabaena*** **(Cyanobacteria), and** ***Rhizosolenia*** **(Diatom).**

  Phytoplankton populations undergo a natural succession during the growing season (Please refer to the "Biological Monitoring Parameters" section of this report for a more detailed explanation regarding seasonal plankton succession). Diatoms and golden-brown algae are typical in New Hampshire's less productive lakes and ponds.

  An overabundance of cyanobacteria (previously referred to as blue-green algae) indicates that there may be an excessive total phosphorus concentration in the lake, or that the ecology is out of balance. Some species of cyanobacteria can be toxic to livestock, pets, wildlife, and humans. (Please refer to the "Biological Monitoring Parameters" section of this report for a more detailed explanation regarding cyanobacteria).

- **Table 2: Cyanobacteria (Blue-green algae)**
  Large amounts of the cyanobacterium ***Anabaena*** were observed in the plankton sample collected in June this season and also in September. During mid-September, a good portion of the lake was a murky green color due to the presence of the cyanobacterium. ***This species, if present in large amounts, can be toxic to livestock, wildlife, pets, and humans.*** A toxicity test was conducted on the phytoplankton samples collected from Webster Lake in 2003. The results showed that the microcystin toxicity was present.

Cyanobacteria can reach nuisance levels when excessive nutrients and favorable environmental conditions occur. During September of 2003, a few lakes and ponds in the southern portion of the state experienced cyanobacteria blooms. This was likely due to nutrient loading to these waterbodies. As mentioned previously, many weeks during the Spring and Summer of 2003 were rainy, which likely resulted in a large amount of nutrient loading to surface waters.

The presence of cyanobacteria serves as a reminder of the lake's delicate balance. Watershed residents should continue to act proactively to reduce nutrient loading into the lake by eliminating fertilizer use on lawns, keeping the lake shoreline natural, re-vegetating cleared areas within the watershed, and properly maintaining septic systems and roads.

For a complete list recommendations to reduce nutrient loading refer to the Webster Lake Diagnostic Feasibility Study, October, 1990, located on the DES website at www.des.state.nh.us/ wmb/WebsterLake/.

In addition, residents should also observe the lake in September and October during the time of fall turnover (lake mixing) to document any algal blooms that may occur. Cyanobacteria (blue-green algae) have the ability to regulate their depth in the water column by producing or releasing gas from vesicles. However, occasionally lake mixing can affect their buoyancy and cause them to rise to the surface and bloom. Wind and currents tend to "pile" cyanobacteria into scums that accumulate in one section of the lake. If a fall bloom occurs, please contact the VLAP Coordinator.

To monitor and assess the abundance of cyanobacteria, DES recommends that a plankton haul be conducted during the monthly sampling events in July, August and September.

For training on how collect a phytoplankton sample, please contact the VLAP Coordinator.

- **Table 4: pH**

  Table 4 (Appendix B) presents the in-lake and tributary current year and historical pH data.

  pH is measured on a logarithmic scale of 0 (acidic) to 14 (basic). pH is important to the survival and reproduction of fish and other aquatic life. A pH below 5.5 severely limits the growth and reproduction of fish. A pH between 6.5 and 7.0 is ideal for fish. The mean pH value for the epilimnion (upper layer) in New Hampshire's lakes and ponds is **6.5**, which indicates that the surface waters in state are slightly acidic. For a more detailed explanation regarding pH, please refer to the "Chemical Monitoring Parameters" section of this report.

The mean pH at the deep spot this season ranged from **6.30** in the hypolimnion to **6.76** in the epilimnion, which means that the water is ***slightly acidic.***

Due to the presence of granite bedrock in the state and the deposition of acid rain, there is not much that can be done to effectively increase lake/pond pH.

- **Table 5: Acid Neutralizing Capacity**

  Table 5 (Appendix B) presents the current year and historic epilimnetic ANC for each year the lake has been monitored through VLAP.

  Buffering capacity or ANC describes the ability of a solution to resist changes in pH by neutralizing the acidic input to the lake. The mean ANC value for New Hampshire's lakes and ponds is **6.7 mg/L**, which indicates that many lakes and ponds in the state are "highly sensitive" to acidic inputs. For a more detailed explanation, please refer to the "Chemical Monitoring Parameters" section of this report.

  The Acid Neutralizing Capacity (ANC) of the epilimnion (the upper layer) continues to remain ***less than*** the state mean of **6.7 mg/L**. Specifically, the lake is classified by DES as ***highly sensitive*** to acidic inputs (such as acid precipitation).

- **Table 6: Conductivity**

  Table 6 (Appendix B) presents the current and historic conductivity values for tributaries and in-lake data. Conductivity is the numerical expression of the ability of water to carry an electric current. The mean conductivity value for New Hampshire's lakes and ponds is **62.1 uMhos/cm**. For a more detailed explanation, please refer to the "Chemical Monitoring Parameters" section of this report.

  The conductivity has ***increased*** in the lake and Sucker Brook since monitoring began. Typically, sources of increased conductivity are due to human activity. These activities include septic systems that fail and leak leachate into the groundwater (and eventually into the tributaries and the lake), agricultural runoff, and road runoff (which contains road salt during the spring snow melt). New development in the watershed can alter runoff patterns and expose new soil and bedrock areas, which could contribute to increasing conductivity. In addition, natural sources, such as iron deposits in bedrock, can influence conductivity.

We recommend that your monitoring group conduct stream surveys and storm event sampling along the inlet(s) with elevated conductivity so that we can determine what may be causing the increases.

For a detailed explanation on how to conduct rain event and stream surveys, please refer to the 2002 VLAP Annual Report "Special Topic Article", or contact the VLAP Coordinator.

- **Table 8: Total Phosphorus**

Table 8 (Appendix B) presents the current year and historic total phosphorus data for in-lake and tributary stations. Phosphorus is the nutrient that limits the algae's ability to grow and reproduce. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

The total phosphorus concentration was ***elevated*** in **Lake Ave Trib, Gagnes Brook (Bk) and Sucker Brook (Bk)** for most of this season. Many of the high concentrations were associated with high turbidity values (Table 11). This suggests that the stream bottom may have been disturbed while sampling or that erosion is occurring in this portion of the watershed. Turbidity (sediments and other particles) can affect total phosphorus concentrations (see following paragraph). These stations have a history of ***relatively high*** total phosphorus concentrations. We recommend that your monitoring group conduct stream surveys and storm event sampling along this inlet so that we can determine what may be causing the increases.

When the stream bottom is disturbed, sediment, which typically contains attached phosphorus, is released into the water column. When collecting samples in the inlets, please be sure to sample where there the stream is flowing and where the stream is deep enough to collect a "clean" sample.

If you suspect that erosion is occurring in this portion of the watershed, we recommend that your monitoring group conduct stream surveys and storm event sampling along this inlet. This additional sampling may allow us to determine what is causing the elevated levels of turbidity and phosphorus.

For a detailed explanation on how to conduct rain event and stream surveys, please refer to the 2002 VLAP Annual Report "Special Topic Article", or contact the VLAP Coordinator.

- **Table 9 and Table 10: Dissolved Oxygen and Temperature Data**
  Table 9 (Appendix B) shows the dissolved oxygen/temperature profile(s) for the 2003 sampling season. Table 10 (Appendix B) shows the historical and current year dissolved oxygen concentration in the hypolimnion (lower layer). The presence of dissolved oxygen is vital to fish and amphibians in the water column and also to bottom-dwelling organisms. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

  The dissolved oxygen concentration was ***low in the hypolimnion*** at the deep spot of the lake. As stratified lakes/ponds age, oxygen becomes ***depleted*** in the hypolimnion (the lower layer) by the process of decomposition. Specifically, the loss of oxygen in the hypolimnion results primarily from the process of biological breakdown of organic matter (i.e.; biological organisms use oxygen to break down organic matter), both in the water column and particularly at the bottom of the lake where the water meets the sediment. When oxygen levels are depleted to less than 1 mg/L in the hypolimnion, the phosphorus that is normally bound up in the sediment may be re-released into the water column.

  The ***low*** oxygen level in the hypolimnion is a sign of the lake's ***aging*** and ***declining*** health. This year the DES biologist conducted the temperature/dissolved oxygen profile in ***June.*** We recommend that the annual biologist visit for the 2004 sampling season be scheduled during ***July*** so that we can further assess the hypolimnetic oxygen depletion ***later*** in the sampling season.

  During this season, and many past sampling seasons the lake has had a lower dissolved oxygen concentration and a higher total phosphorus concentration in the hypolimnion (the lower layer) than in the epilimnion (the upper layer). These data suggest that the process of ***internal total phosphorus loading*** is occurring in the lake.

  Again, this may explain why the phosphorus concentration in the hypolimnion is ***greater*** than the phosphorus concentration in epilimnion. Since an internal source of phosphorus in the lake may be present, it is even more important that watershed residents act proactively to minimize external phosphorus loading from the watershed.

- **Table 11: Turbidity**
  Table 11 (Appendix B) lists the current year and historic data for in-lake and tributary turbidity. Turbidity in the water is caused by suspended matter, such as clay, silt, and algae. Water clarity is

strongly influenced by turbidity. Please refer to the "Other Monitoring Parameters" section of this report for a more detailed explanation.

The turbidity of the hypolimnion (lower layer) sample was elevated in **July, August, and September**. This suggests that the lake bottom may have been disturbed by the anchor or by the Kemmerer Bottle while sampling. When the lake bottom is disturbed, sediment, which typically contains attached phosphorus, is released into the water column. When collecting the hypolimnion sample, please check to make sure that there is no sediment in the Kemmerer Bottle before filling the sample bottles.

The turbidity in **Lake Ave Trib, Gagnes Bk, and Sucker Bk** samples was slightly elevated on several dates this summer, which suggests that the stream bottom may have been disturbed while sampling or that erosion is occurring in this portion of the watershed.

When the stream bottom is disturbed, sediment, which typically contains attached phosphorus, is released into the water column. When collecting samples in the inlets, please be sure to sample where there the stream is flowing and where the stream is deep enough to collect a "clean" sample.

If you suspect that erosion is occurring in this portion of the watershed, we recommend that your monitoring group conduct stream surveys and storm event sampling along this inlet. This additional sampling may allow us to determine what is causing the elevated levels of turbidity. Sources of erosion may be naturally occurring or indirectly result from increased surface water runoff associated with land alteration or development. In addition, direct erosion sources may include improperly maintained roadways, construction sites or logging operations near or adjacent to flowing water ways. If these sites are not practicing and implementing best management practices (BMPs) this can cause or contribute to erosion, impacting adjacent or downstream waterbodies.

For a detailed explanation on how to conduct rain event and stream surveys, please refer to the 2002 VLAP Annual Report "Special Topic Article", or contact the VLAP Coordinator.

- **Table 12: Bacteria (*E.coli*)**

  Table 12 lists the current year data for bacteria (*E.coli*) testing. *E. coli* is a normal bacterium found in the large intestine of humans and other warm-blooded animals. *E.coli* is used as an indicator organism because it is easily cultured and its presence in the water, in defined amounts, indicates that sewage **MAY** be present. If sewage is present in the water, potentially harmful disease-causing organisms may also be present. Please consult the "Other Monitoring Parameters" section of the report for the current state standards for *E. coli* in surface waters. If residents are concerned about sources of bacteria such as failing septic systems, animal waste, or waterfowl waste, it is best to conduct *E. coli* testing when the water table is high, when beach use is heavy, or after rain events.

The *E. coli* concentrations at **Lake Ave Trib, Rt 11 Inlet, and Sucker Bk** were **elevated** on **several dates this summer.** However, in most cases the concentration ***was not greater than*** the state standard of 406 counts per 100 mL for recreational waters that are not designated beaches.

Sucker Bk experienced an *E. coli* concentration of **500 counts per 100 mL** on September 17. A plan of action to determine the source(s) of these high concentrations was initiated by the Town officials from Franklin and Andover and DES staff in November 2003. DES will be conducting a Sucker Brook watershed investigation in 2004. Please contact DES if you would like a copy of the Sucker Brook Watershed Investigation Scope of Work. Following the initial survey, dry and wet weather sampling will occur. If you would like to assist with sampling, please contact the VLAP coordinator.

DATA QUALITY ASSURANCE AND CONTROL

Sample Receipt Checklist

Each time your monitoring group dropped off samples at the laboratory this summer, the laboratory staff completed a sample receipt checklist to assess and document if the volunteer monitors followed proper sampling techniques when collecting the samples. The purpose of the sample receipt checklist is to minimize, and hopefully eliminate, future re-occurrences of improper sampling techniques.

Overall, the sample receipt checklist showed that your monitoring group did a ***very good*** job when collecting samples this season! Specifically, the members of your monitoring group followed the majority of the proper field sampling procedures when collecting and submitting samples to the laboratory. However, the laboratory did identify a few aspects of sample collection that the volunteer monitors could improve upon. They are as follows:

- **Sample Labels:** On the **August 19, 2003,** sampling event, at least one *E. coli* sample bottle was not properly labeled with the time the sample was collected. It is very important to label your bacteria samples with the time collected so the laboratory can determine if the sample is "good". *E. coli* samples must be analyzed within 24 hours of the initial collection. Please make sure to label your samples with a waterproof pen (a black sharpie permanent marker works best), preferably before sampling. If your association has made its own sample bottle labels, please make sure to fold over one corner of each label before placing it on a sample bottle so that the label will not become permanently attached to the bottle. In addition, please make sure that the labels will stick to the bottles when they are wet.

- **Tributary Sampling:** Please do not sample tributaries that are not flowing. Due to the lack of flushing, stagnant water typically contains elevated amounts of chemical and biological constituents that will lead to erroneous results. Please only sample tributaries that will provide enough water to fill the sample bottle to the neck.

NOTES

- **Monitor's Note (5/28/03):** Lake level was very high as we have had several days of rain and there was good moving water in all tributaries.
  (6/18/03): Abundant pollen on water surface
  (8/19/03): Sample of weed growth taken from North end of lake. Please ID.

- **Biologist's Note (5/28/03):** Gagnes Bk. and Lake Ave. Tributary Slightly tea colored
  (6/18/03): Lake Ave. Tributary was tea colored
  (7/23/03): Large white bottles not completely full for inlets
  (8/19/03): The E. Coli counts and total phosphorous level at Lake Ave. Tributary were found to be high. The total phosphorous level at the hypolimnion was found to be elevated. This suggests that internal loading is occurring.

USEFUL RESOURCES

Acid Deposition Impacting New Hampshire's Ecosystems, ARD-32, NHDES Fact Sheet, (603) 271-3505, or www.des.state.nh.us/factsheets/ard/ard-32.htm.

Aquarium Plants and Animals: Don't leave them stranded. Informational pamphlet sponsored by NH Fish and Game, Aquaculture Education and Research Center, and NHDES (603) 271-3505.

Best Management Practices to Control Nonpoint Source Pollution: A Guide for Citizens and Town Officials, *NHDES-WD 97-8*, NHDES Booklet, (603) 271-3503.

A Boater's Guide to Cleaner Water, NHDES pamphlet, (603) 271-3503.

Camp Road Maintenance Manual: A Guide for Landowners. KennebecSoil and Water Conservation District, 1992, (207) 287-3901.

Comprehensive Shoreland Protection Act, RSA 483-B, *WD-SP-5,* NHDES Fact Sheet, (603) 271-3503 or www.des.state.nh.us/factsheets/sp/sp-5.htm.

Cyanobacteria in New Hampshire Waters Potential Dangers of Blue-Green Algae Blooms, NHDES Fact Sheet, (603) 271-3505, or www.des.state.nh.us/factsheets/wmb/wmb-10.htm.

Erosion Control for Construction in the Protected Shoreland Buffer Zone, WD-SP-1, NHDES Fact Sheet, (603) 271-3503 or www.des.state.nh.us/factsheets/sp/sp-1.htm

Impacts of Development Upon Stormwater Runoff, WD-WQE-7, NHDES Fact Sheet, (603) 271-3503, or www.des.state.nh.us/factsheets/wqe/wqe-7.htm

Iron Bacteria in Surface Water, *WD-BB-18*, NHDES Fact Sheet, (603) 271-3503 or www.des.state.nh.us/factsheets/bb/bb-18.htm

Is it Safe to Eat the Fish We Catch? Mercury and Other Pollutants in Fish, NH Department of Health and Human Services pamphlet, 1-800-852-3345, ext. 4664.

Lake Protection Tips: Some Do's and Don'ts for Maintaining Healthy Lakes, *WD-BB-9*, NHDES Fact Sheet, (603) 271-3503 or www.des.state.nh.us/factsheets/bb/bb-9.htm.

Management of Canada Geese in Suburban Areas: A Guide to the Basics, Draft Report, NJ Department of Environmental Protection Division of Watershed Management, March 2001, www.state.nj.us/dep/watershedmgt/DOCS/BMP_DOCS/Goosedraft.pdf.

Proper Lawn Care In the Protected Shoreland, The Comprehensive Shoreland Protection Act, WD-SP-2, NHDES Fact Sheet, (603) 271-3503 or www.des.state.nh.us/factsheets/sp/sp-2.htm.

Road Salt and Water Quality, WD-WMB-4, NHDES Fact Sheet, (603) 271-3503 or www.des.state.nh.us/factsheets/wmb/wmb-4.htm.

Sand Dumping - Beach Construction, *WD-BB-15*, NHDES Fact Sheet, (603) 271-3503 or www.des.state.nh.us/factsheets/bb/bb-15.htm.

Swimmers Itch, *WD-BB-2*, NHDES Fact Sheet, (603) 271-3503 or *www.des.state.nh.us/factsheets/bb/bb-2.htm.*

Through the Looking Glass: A Field Guide to Aquatic Plants. North American Lake Management Society, 1988, (608) 233-2836 or www.nalms.org.

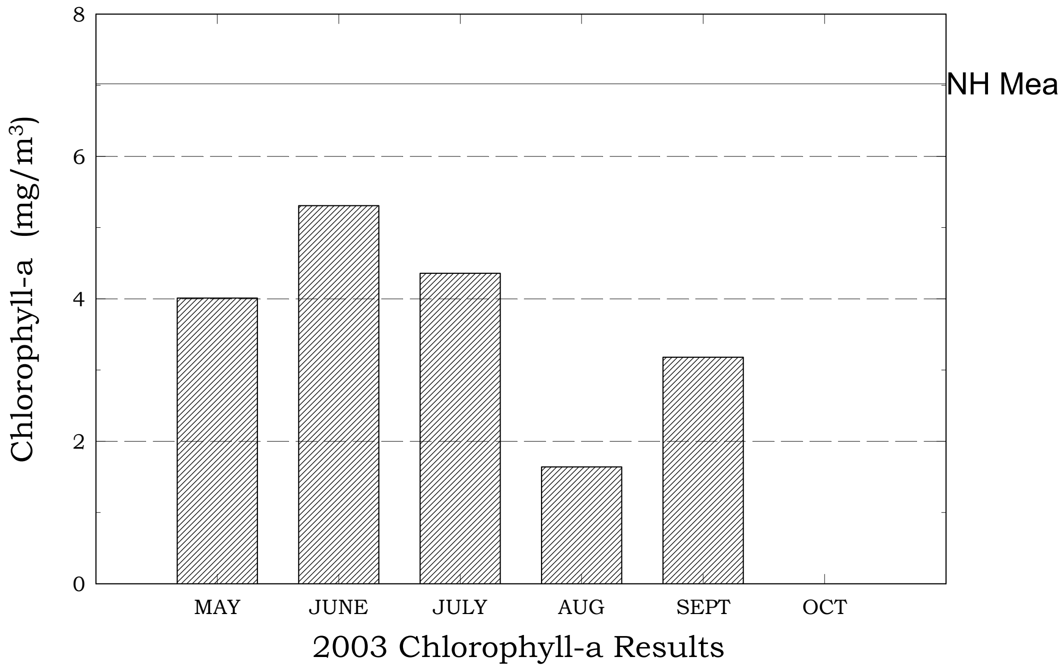
Weed Watchers: An Association to Halt the Spread of Exotic Aquatic Plants, WD-BB-4, NHDES Fact Sheet, (603) 271-3503 or www.des.state.nh.us/factsheets/bb/bb-4.htm.

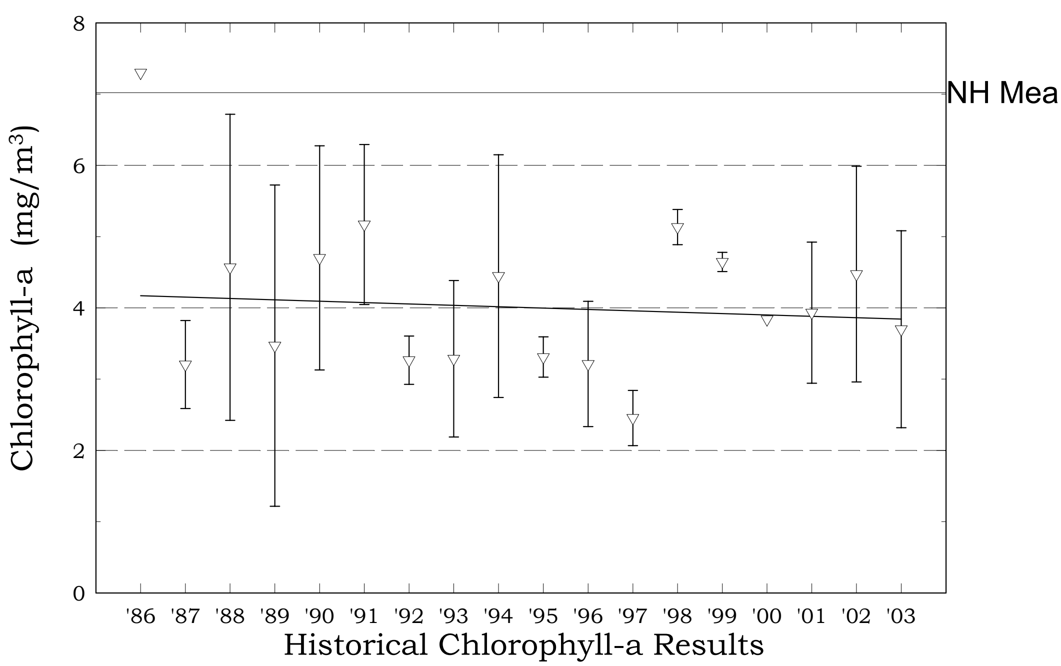
APPENDIX A

GRAPHS

Webster Lake, Franklin

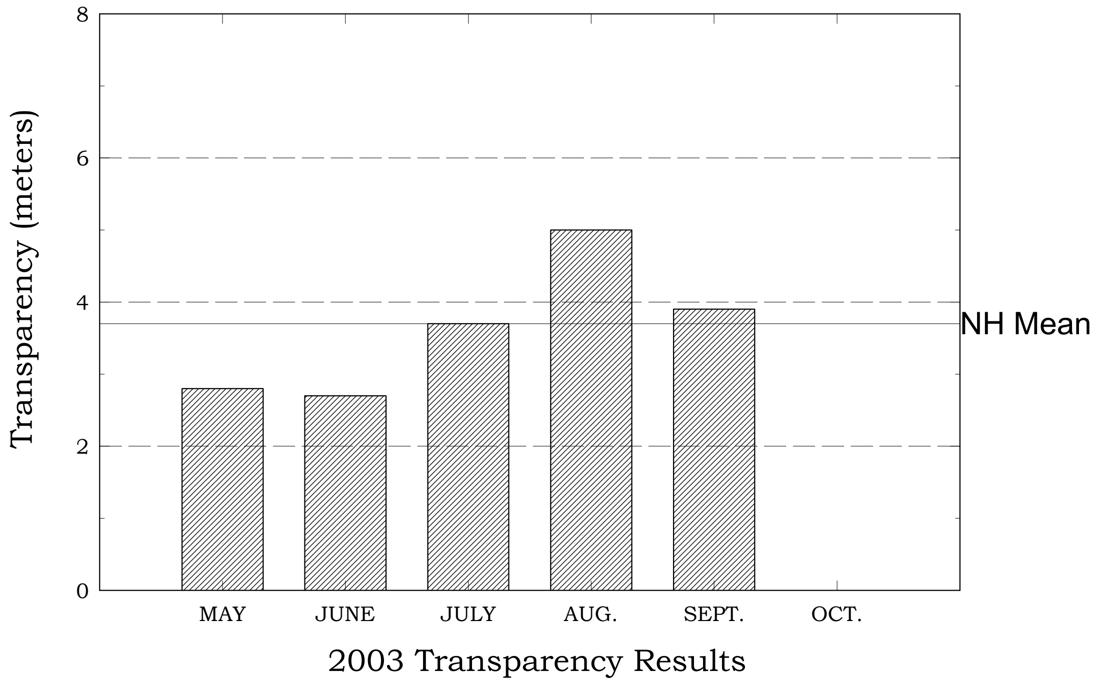
Figure 1. Monthly and Historical Chlorophyll-a Results

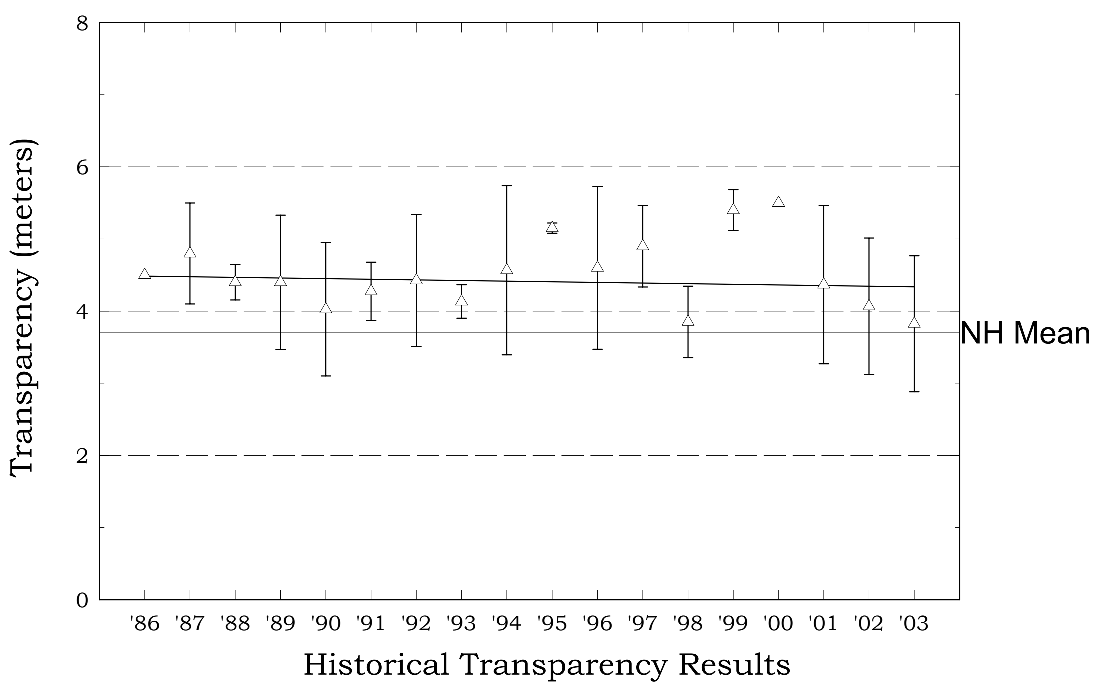




Webster Lake, Franklin

Figure 2. Monthly and Historical Transparency Results





Webster Lake, Franklin

Figure 3. Monthly and Historical Total Phosphorus Data.